

Intro to 3D Printing

About MakerFX

MakerFX Makerspace is a unique makerspace in South Orlando. This space is organized by a group of like minded makers who saw the need for a new space in Orlando to fill the geographic gaps and walk hand in hand with other local spaces, FamiLAB and Factor. MakerFX is a makerspace program of The Maker Effect Foundation.

The Maker Effect

The Maker Effect Foundation exists to activate and amplify the efforts of makers as they learn, build and work together in their communities. Our efforts include research, publication, community organization, event production, and startup advisement.

What We'll Cover

- Common Types of 3D Printing
- How does FFF / FDM work?
- Common FFF Materials
- Limitations and Considerations of FFF
- Choosing models from Thingiverse

Types of 3D Printing

- SLA / DLP
 - Stereo Lithography
 - Digital Light Processing
- SLS
 - Selective Laser Sintering
- FFF / FDM
 - Fused Filament Fabrication
 - Fused Deposition Modeling

SLA / DLP

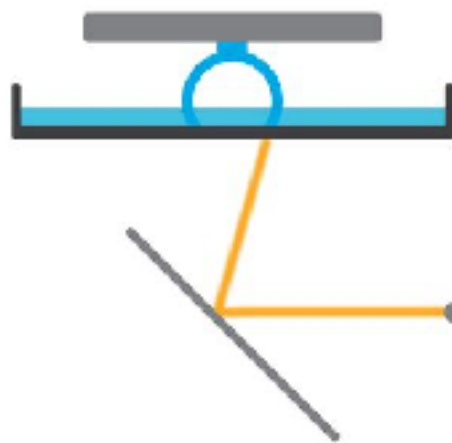
- SLA is considered the original form of Additive Manufacturing
- Laser or light solidifies plastic goo.

SLA & DLP



Liquid resin

SLA



Selective exposure
to light by laser

DLP



Selective exposure
to light by projector

SLA & DLP



Accumulation of layers
creates a solid object

SLS

- Laser fuses tiny nylon beads (powder)
- Parts are tough and usable directly from printer.
- No support structures needed.

FFM / FDM

- Squirts layers of melted plastic.
- PLA and ABS are the most common materials.
- 99% of consumer-grade printers.

FFM / FDM Design Considerations

- Overhangs
 - Supports
- Infill
- Outer Shells
- Layer Height
- Adhesion

Slicing And Printing Demonstration